



Call for papers

## 7th International Conference on Engineering Education for Sustainable Development (EESD15): *Cultivating the T-Shaped Engineer*, Vancouver Canada, June 9–12, 2015

Susan Nesbit\*

[eesd15.engineering.ubc.ca](http://eesd15.engineering.ubc.ca)

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### EESD15

EESD15 is the 7th in a series of international conferences aimed at knowledge sharing to enhance engineering education for sustainable development. Previous EESD conferences were:

#### EESD13: Rethinking the Engineer

Cambridge, U.K., September, 2013.

#### EESD10: Learning for Transformation

Gothenburg, Sweden, September, 2010.

#### EESD08: Bridging the Gap

Graz, Austria, September, 2008.

#### EESD06: Engineering Education in Sustainable Development

Lyon, France, October, 2006.

#### EESD04: Engineering Education for Sustainable Development 2004

Barcelona, Spain, October, 2004.

#### EESD02: Engineering Education for Sustainable Development 2002

Delft, The Netherlands, October, 2002.

### EESD15 Location

EESD15 will be held on the University of British Columbia's (UBC) Vancouver campus, overlooking beautiful Howe Sound in Vancouver, Canada. UBC is committed to operating sustainably (see: [sustain.ubc.ca](http://sustain.ubc.ca)) and the City of Vancouver is actively pursuing "The Greenest City" goals. Delegates can observe local sustainable development activities and enjoy the wild nature of Canada's west coast. UBC is only 2 h away from Whistler B.C., the co-host of the 2010 Winter Olympics, and a similar distance across the waters of Georgia Strait from Victoria on Vancouver Island, Canada's west coast jewel.

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Conference accommodation is available on the UBC campus or in Vancouver's city centre (30 min from campus by public transport). The conference's Welcoming Ceremony takes place in UBC's First Nation's Long House. While attending the conference, delegates can enjoy UBC amenities such as the Museum of Anthropology, the UBC Farm, and the Centre for Interactive Research on Sustainability ([cirs.ubc.ca](http://cirs.ubc.ca)).

- Vancouver is located only 4 h from Seattle, USA, where the American Society for Engineering Education (ASEE) is holding the 2015 ASEE conference on June 14–17.
- Vancouver is the location of the 2015 Conference of the Society for Teaching and Learning in Higher Education, held from June 16 to 19.

### Conference Theme

*Professional Breadth and Technical Depth – Cultivating the T-Shaped Engineer*

Engineering for sustainable development calls for engineering graduates who can *both* apply deep technical knowledge toward improving environmental and human well-being, *and* demonstrate a breadth in non-technical skills of the highest professional standards.

- Applying deep theoretical and applied technical knowledge—while not a new requirement of the graduating engineer—is becoming more complex. Traditional engineering fields are responding to unprecedented increases in both global population and per-capita consumption rates with new technologies and applications directed toward net-positive sustainability.
- Professional breadth connects engineering expertise to leadership, law, community development, ecology, business and entrepreneurship, public policy, humanitarianism and more. It aims to achieve an understanding of assumptions, knowledge, methods, and implications of an array of disciplines and ways of thinking, all viewed as an integrated whole.
- The highest quality professionalism includes an ability to exchange and exhibit mutual respect and understanding of ideas,

philosophical principles, cognitive styles, and mind-sets as well as acts of integrity and purposeful personal reflection.

EESD15 will explore the challenges of cultivating the T-Shaped Engineer by sharing best practices in pedagogy innovation, curriculum re-design and assessment, community engagement in engineering education, student development, and more. All stakeholders in engineering education for sustainable development are invited to attend, including engineering academics, community partners, employers, educators from across the academy, students, professionals, non-governmental organizations, and curriculum developers.

### Keynote Speakers

#### Dr. Frances Westley, J.W. McConnell Chair in Social Innovation, University of Waterloo, Canada

Frances Westley is a renowned scholar and consultant in the areas of social innovation, strategies for sustainable development, strategic change, visionary leadership and inter-organizational collaboration. Her most recent book, *Getting to Maybe* (Random House, 2006) focuses the dynamics of social innovation, and institutional entrepreneurship in complex adaptive systems. *Experiments in Consilience* (Island Press, 2004), focuses on the dynamics of inter-organizational and interdisciplinary collaboration in the management of ecological and conservation problems.

Dr. Westley joined the University of Waterloo as the JW McConnell Chair in Social Innovation in July 2007. Before this, she held the position of Director, Nelson Institute for Environmental Studies (2005–2007) at the University of Wisconsin–Madison. Other positions she has previously held include the James McGill Professor of Strategy at McGill University's Faculty of Management, director of the McGill-Dupont Initiative on Social Innovation and director of the McGill–McConnell Masters program for National Voluntary Sector leaders – an innovative executive masters customized for the leaders of voluntary organizations across Canada.

Frances Westley serves on numerous advisory boards including Resilience Alliance Board of Science, World Conservation Union–Conservation Breeding Specialist Group, the Stockholm Resilience Center, the SARAS Institute, Engineers Without Borders Canada, and Evergreen Canada. She is on the editorial board of several journals, including *Journal of Applied Behavioral Science* and *Ecology and Society*. She is the recipient of several awards including the Ulysses S. Seal award for innovation in conservation and the Corporate Knights Award.

*Biographies of other Keynote Speakers are available on the Conference website.*

### Key Questions

The Conference Co-Chairs ask authors and delegates to consider the following key questions regarding engineering education for sustainable development.

- Expectations for EESD: What do employers and other stakeholders with a focus on sustainability expect from graduating engineers? How should education prepare graduates for the challenges young engineers will face during their careers?
- Social Innovation, systems thinking, and green engineering: How is the role of the engineer changing in society? What knowledge, skills, and attitudes will engineering for sustainable development require? Does teaching change?

- EESD for Highly Qualified Engineers: Do engineers graduating with Ph.D.s need EESD to succeed? Does research toward a “technical fix” require understanding of complexity science?
- Retrofitting Engineering Education: How are engineering programs retrofitting to incorporate sustainability education? Do trans-disciplinarity, leadership, or humanitarianism play roles in revised programmes? What is best practice?
- “Walking the Talk”: How do we monitor and continually improve EESD? How does the assessment of EESD fit with accreditation assessments and other regulatory evaluations of curriculum?

Papers and posters that address these and other topics, are welcome.

### Schedule

July 15, 2014	First call for abstracts
September 1st, 2014	Second call for Abstracts
September 16, 2014	Abstract due
December 1st, 2014	Notification of suitability and acceptance of contributions
January 1st, 2015	Draft programme published
February 1st, 2015	Full paper due
March 15th, 2015	Full paper accepted or revisions required
April 30th, 2015	Final deadline for final paper submission
June 1st, 2015	Full poster due
June 1st, 2015	Final programme published
June 9–15, 2015	EESD15 Conference: Graduating the T-Shaped Engineer

### Review Process

Abstracts will be reviewed by members of the Steering and Scientific Committees, and the authors of those chosen to present at the Conference will be invited to submit a full paper by February 1st, 2015 or a poster by June 1st. Each paper will undergo a peer review by two referees with notification of any revisions required to authors by mid-March. The final paper must be received in the correct format by the end of April, 2015. Papers that are accepted must be presented in person at the Conference by at least one of the authors.

The conference Steering Committee will recommend journal submission to authors of worthy papers.

### Format and Procedures

Abstracts should not exceed 400 words. The full papers should not exceed 8 pages. A template for the preparation of papers in a standard format can be downloaded from the Conference website.

Contributions should be reflective and analytical and not mere descriptions of performed activities. We particularly welcome contributions from outside of engineering education institutions, including private and public employers of engineers, and also including non-engineering stakeholders who are influenced by engineering, or engineering education activities. For example, academics from the science, humanities, and the business disciplines, members of environmental non-governmental organizations, community partners in engineering education, and professionals who work with engineers.

### Website

Information about the venues, the conference programme, plenary sessions, the social programme, and Vancouver is available on the Conference website, which is continuously updated. Registration for the Conference is available via the website links.

EESD15 Website: [eesd15.engineering.ubc.ca](http://eesd15.engineering.ubc.ca)

## Steering Committee

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Paul Jowitt (Heriot Watt University)	Jordi Segalas (Technical University of Catalonia)

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## Contacts

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